

Patent claims

1. A method for adjusting the picture definition on the camera lens of a motion picture camera

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- in a manual focussing operation in which the picture definition is adjusted or readjusted manually on the camera lens using an input device of an operating unit and/or is displayed on a display device of the operating unit, or
- in an automatic focussing operation in which an autofocus device controls the picture definition on the camera lens as a function of the distance from an object to be recorded by the motion picture camera,

characterized in that

20 control signals output by the autofocus device (16) are supplied to the operating unit (7, 7') for adjusting or readjusting the input or display device (8, 9) during the automatic focussing operation.

25 2. An apparatus as claimed in claim 1, characterized in that the control signals output by the autofocus device (16) adjust or readjust the input or display device (8, 9) of the operating unit (7, 7') continuously or at intervals during the automatic focussing operation.

30 3. The method as claimed in claim 1 or 2, characterized in that the input or display device (8, 9) of the operating unit (7, 7') is adjusted before the start of the manual focussing operation using the control signals output by the autofocus device (16) at the end of the automatic focussing operation.

4. The method as claimed in at least one of the preceding claims, characterized in that the control signals are output to an electromechanical actuator (21, 22) of the input or display device (8, 9) of the 5 operating unit (7, 7').

5. The method as claimed in at least one of the preceding claims 1 to 3, characterized in that the control signals are output to an electronic control or 10 display device of the operating unit (7, 7').

6. The method as claimed in at least one of the preceding claims, characterized in that the input or display device (8, 9) of the operating unit (7, 7') is 15 adjusted to the picture definition adjusted by the autofocussing device (16) when the automatic focussing operation is switched over to the manual focussing operation, and the input device (8) of the operating unit (7, 7') is then used to adjust or readjust the 20 picture definition on the camera lens (2).

7. An apparatus for carrying out the method as claimed in at least one of the preceding claims, characterized by

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- at least one drive unit (5) connected to the camera lens (2) of the motion picture camera (1) for adjusting the picture definition,

30 - an operating unit (7, 7') with at least one input device for manually adjusting, readjusting or delimiting the adjustment range of the picture definition and one display device (9) for displaying the adjusted picture definition and/or 35 the delimitation of the adjustment range of the picture definition,

- an autofocussing device (16) for measuring the distance of an object to be recorded from the motion picture camera (1) and outputting control signals for controlling the picture definition as a function of the measured distance from the object to be recorded, and

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- a device (20-24) for adjusting or readjusting the input or display device (8, 9) of the operating unit (7, 7') as a function of the control signals output by the autofocussing device (16).

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8. The apparatus as claimed in claim 7, characterized in that the drive unit (5) can be driven using an electric line connection (6) or a radio connection by the operating unit (7, 7') in the manual focussing 10 operation and by the autofocussing device (16) in the automatic focussing operation, which autofocussing device, in the automatic focussing operation, outputs control signals both to the drive unit (5) and the operating unit (7, 7') using electric line connections 15 (17, 6, 14) or a radio connection.

9. The apparatus as claimed in claim 8, characterized in that the input device of the operating unit (7, 7') includes an electromechanical actuator (8) for 20 outputting position-dependent signals for adjusting or readjusting the picture definition, whose position in relation to a reference position can be varied as a function of the control signals output by the autofocussing device (16).

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10. The apparatus as claimed in claim 9, characterized in that the electromechanical actuator comprises a focussing or picture definition handwheel (8) in the form of an absolute encoder.

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11. The apparatus as claimed in at least one of the preceding claims 8 to 10, characterized in that the display device of the operating unit comprises a scale dial (9), in particular a scale dial which can be 35 written on, whose position in relation to a reference position can be varied as a function of the control signals output by the autofocussing device (16).

12. The apparatus as claimed in claim 11, characterized in that the scale dial (9) can be connected to stops (10, 11) for delimiting the picture definition adjustment range, whose position on the 5 scale dial (9) can be varied as a function of the control signals output by the autofocussing device (16).

13. The apparatus as claimed in claim 11 or 12, 10 characterized in that the scale dial (9) and/or the stops (10, 11) for delimiting the picture definition adjustment range can be reset using a differential gear mechanism without resetting the input device (7, 7').

15 14. The apparatus as claimed in at least one of the preceding claims 7 to 13, characterized in that the input device (8) and/or the display device (9) of the operating unit (7, 7') can be reset, as a function of the control signals output by the autofocussing device 20 (16), using a motor/gear arrangement (21, 22).

15. The apparatus as claimed in at least one of the preceding claims 7 to 13, characterized in that the input device (8) and/or the display device (9) of the operating unit (7, 7') can be reset, as a function of the control signals output by the autofocussing device 25 (16), using a direct drive, in particular using an electric motor or an ultrasonic motor.

30 16. The apparatus as claimed in at least one of the preceding claims 7 to 15, characterized in that the input device (8) and/or the display device (9) of the operating unit (7, 7') can be connected to the motor/gear arrangement or to the direct drive via a 35 clutch.

17. The apparatus as claimed in claim 7, characterized in that the operating unit comprises a manual follow

focus (external definition 7')

with a picture definition handwheel (8') and a scale dial (9') with stops for delimiting the picture definition adjustment range, in that an electric motor can be plugged onto the manual follow focus (7), which 5 electric motor can be disconnected during the manual focussing operation, and in that the electric motor can be driven by the autofocussing device (16) in the automatic focussing operation such that the position of the picture definition handwheel (8') and/or the scale 10 dial (9') and/or the stops for delimiting the picture definition adjustment range can be varied as a function of the control signals output by the autofocussing device (16).

15 18. The apparatus as claimed in claim 17, characterized in that during the manual focussing operation the electric motor can be disconnected electrically.

20 19. The apparatus as claimed in claim 17, characterized in that during the manual focussing operation the electric motor can be disconnected using a clutch which can be released.

25 20. The apparatus as claimed in at least one of the preceding claims 7 to 19, characterized in that the operating unit (7, 7') is connected via a position encoder (24) to a microprocessor (20) which resets the input and/or display device (8, 9) of the operating 30 unit (7, 7') as a function of the control signals output by the autofocussing device (16) using a actuating motor (21) and a gear mechanism (22), and in that an autofocus contact switch (26) or autofocus switch is connected to an input of the microprocessor 35 (20) for initiating the automatic or manual focussing operation.

21. The apparatus as claimed in claim 20, characterized in that the autofocus contact switch (26) triggers a transfer of the picture definition setpoint value(s), output by the autofocussing device (16) to the drive unit (5) connected to the camera lens (2), to the operating unit (7, 7').

22. The apparatus as claimed in claim 20, characterized in that the autofocus switch (26) activates the automatic focussing operation in a first position, and the manual focussing operation in a second position, and in that the control signals of the autofocus device (16) are applied to the operating unit (7, 7') in the first position of the autofocus switch and/or when the autofocus switch is switched over from the first into the second position.